CDP-C500M

SERVICE MANUAL

AEP Model
UK Model
E Model

COMPACT disc DIGITAL AUDIO

SPECIFICATIONS

COMPACT DISC PLAYER

System	Compact disc digital audio system
Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max. 44.6 μW* * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
Frequency response	2 Hz – 20 kHz ($\pm$1 dB)
Signal to noise ratio	More than 100 dB
Dynamic range	More than 90 dB
Harmonic distortion	Less than 0.05% (1 kHz)
Channel separation	More than 95 dB (1 kHz)
Wow and flutter	Below measurable limit
Outputs	LINE OUT (phono jacks) Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms PHONES (stereo phone jack) Output level 0 – 10 mW (variable) (at 32 ohms)

GENERAL

Power requirements	UK model : 240 V AC, 50 Hz AEP model : 220 V AC, 50/60 Hz E model : 110-120, 220-240 V AC adjustable, 50/60 Hz
Power consumption	10 W
Dimensions	Approx. 355 × 105 × 385 mm (w/h/d) (14 × 4¼ × 15¼ inches) not including projecting parts and controls
Weight	Approx. 5.1 kg (11.4 lb)

REMOTE COMMANDER (RM-D505)

Remote control system	Infrared control
Power requirememts	3 V DC with two size AA (R6) batteries
Dimensions	Approx. 43 × 20 × 175 mm (w/h/d) (1 11/16 × 13/16 × 6 15/16 inches)
Weight	Approx. 110 g (4 oz) including batteries

SUPPLIED ACCESSORIES

Audio signal connecting cord
(phono plug X 2 ⟷ phono plug X 2) (1)
Remote commander (1)
AC plug Adaptor (1) (for countries other than UK and EC only)
Sony SUM-3 (NS) batteries (2)
Operating Manual (1)

Design and specifications subject to change without notice.

COMPACT DISC PLAYER

SONY®

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SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output Power: less than 44.6 μW*

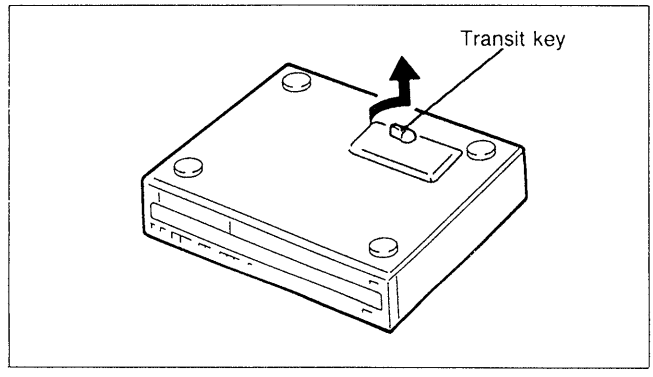
  * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

Note on the Transit Key



The white transit key on the bottom exterior of the unit protects the optical system against shock during transportation. Before operating the CD player, be sure to remove the key by following the instructions on the label, and store it in a safe place.

When transporting the unit, replace the key in its original hole and lock it in place.

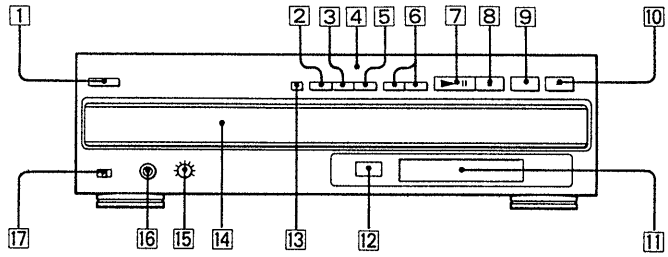
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
OUTLINE

1-1. LOCATION AND FUNCTION OF CONTROLS

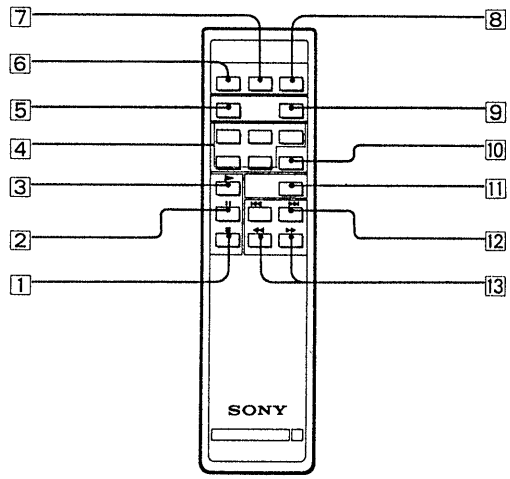
Front Panel



1 POWER switch
2 PROGRAM button
3 SHUFFLE button
4 1 DISC indicator
5 CONTINUE button
6 ⏮⏭ (AMS*/RMS**) buttons
7 ⏯ (play/pause) button
8 ■ (stop) button
9 DISC SKIP button
10 ⏏ OPEN/CLOSE button
11 Display window
12 Remote sensor
13 TIME button
14 DISC tray
15 (headphone) LEVEL control
16 PHONES (headphones) jack
17 TIMER switch

* AMS is the abbreviation of Automatic Music Sensor.
** RMS is the abbreviation of Random Music Sensor.

REMOTE COMMANDER RM-D505



1 ■ (stop) button
2 II (pause) button
3 ▶ (play) button
4 DISC 1 – 5 buttons
5 TIME button
6 PGM (program) button
7 SHUFFLE button
8 CONTINUE button
9 REPEAT button
10 DISC SKIP button
11 FADER button
12 ⏮⏭ (AMS*) buttons
13 ◀◀ ▶▶ (manual search) buttons

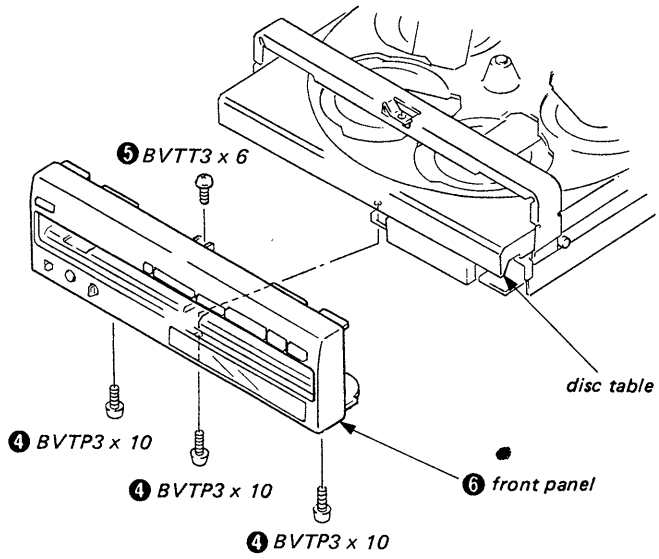
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

FRONT PANEL

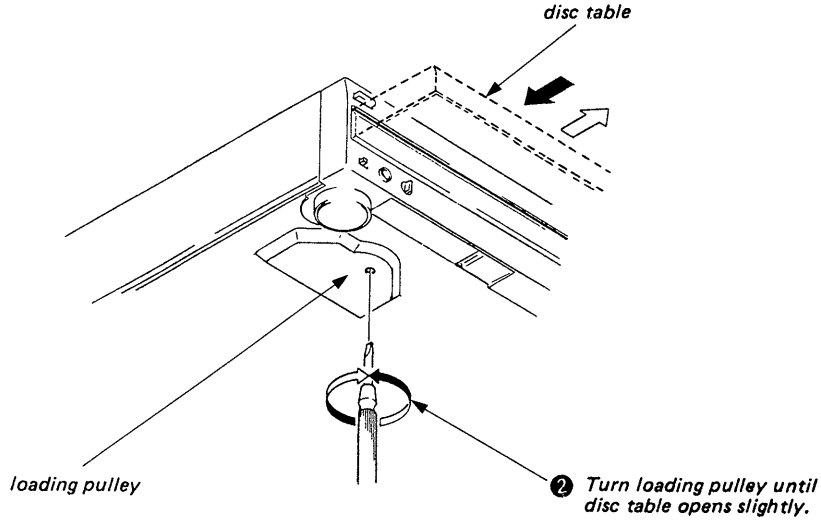
A. When disc table opens automatically by pressing OPEN/CLOSE button;

❶ *Remove top cover.*
❷ *Press POWER switch to turn the power on.*
❸ *Press OPEN/CLOSE button to open disc table.*



B. When disc table does not open even if OPEN/CLOSE button is pressed;

❶ *Remove top cover.*
❸ *Perform steps A-4 to A-6.*

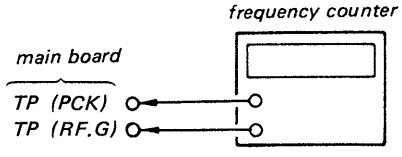


SECTION 3
ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 (Part No.: 3-702-101-01) disc unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.

RF PLL Frequency Adjustment/Lock Frequency Check

Procedure:

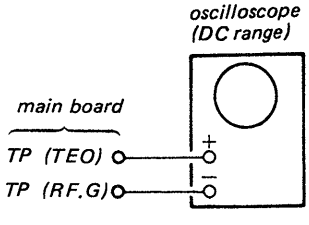


1. Connect test point TP (ASY) to ground with lead wire.
2. Turn POWER switch on.
3. Connect the frequency counter to test points TP (PCK).
4. Adjust RV5 so that the reading on frequency counter is 4.3218 MHz ±30 kHz.
   . . . . . (RF PLL frequency adjustment)
5. Remove lead wire connecting TP (ASY) to ground.
6. Put disc (YEDS-18) in and press ▷ button.
7. Confirm that the reading on frequency counter is 4.3218 MHz.

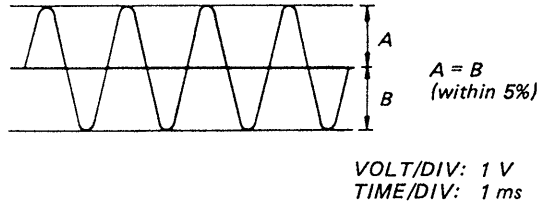
E-F Balance Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure:



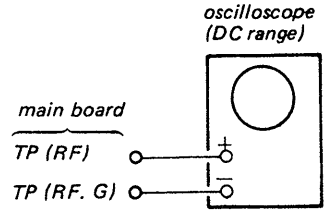
1. Connect test point TP (TST) and TP (TE) to ground with lead wire.
2. Connect oscilloscope to test point TP (TEO).
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and press ▷ button.
5. Adjust RV1 so that the traverse waveform is symmetrical above and below.
6. After adjustment, remove the lead wire connected in step1.



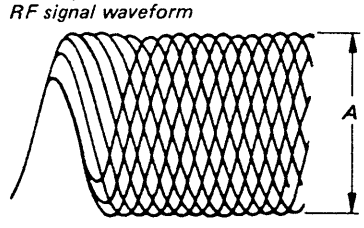
Focus Bias Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure:



1. Connect oscilloscope to test points TP (RF) and test point TP (RF. G).
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and press ▷ button.
4. Adjust RV2 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.



REFERENCE

Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

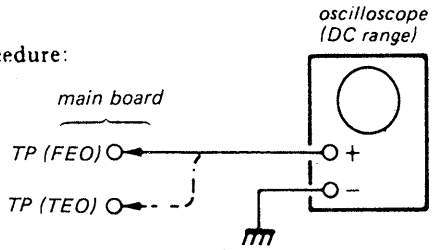
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮ ⏭ buttons pressed.) (Normally takes about 1 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP→▷PLAY or automatic selection.(⏮ ⏭ buttons pressed.)	–	low
• Disc table opens shortly after STOP→▷PLAY.	low or high	–
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

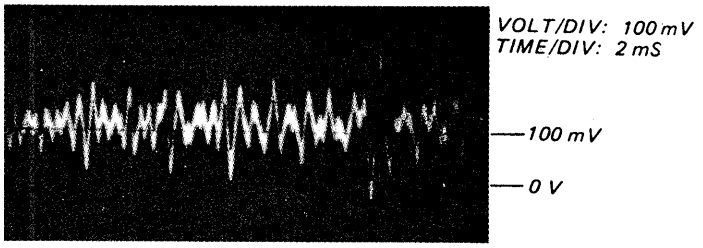
– Primary Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position.

Procedure:

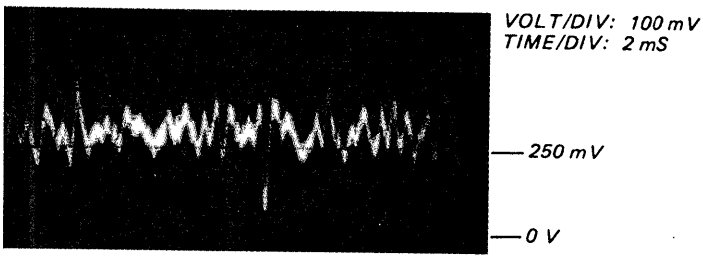


1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18: Fifth Selection) and press ▷ PLAY button.
3. Connect oscilloscope to main amp board TP (FEO).
4. Adjust RV3 so that the waveform is as shown in the figure below. (focus gain adjustment)

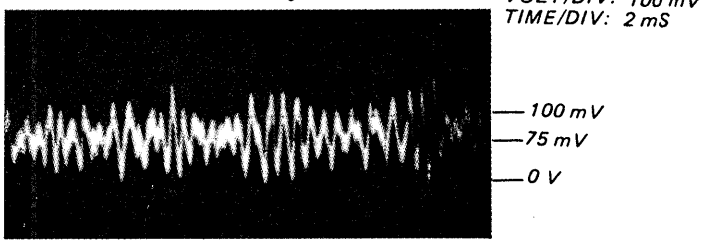


- Incorrent Examples (DC level changes more than on adjusted waveform)

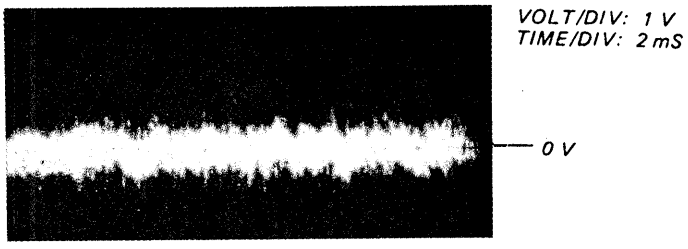
low focus gain



high focus gain

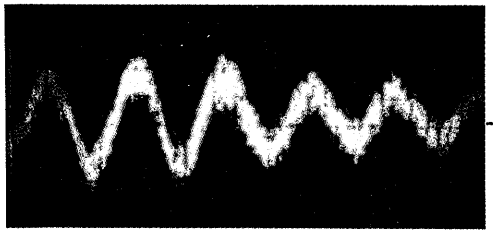


5. Connect oscilloscope to main board TP (TEO).
6. Adjust RV4 so that the waveform is as shown in the figure below. (tracking gain adjustment)



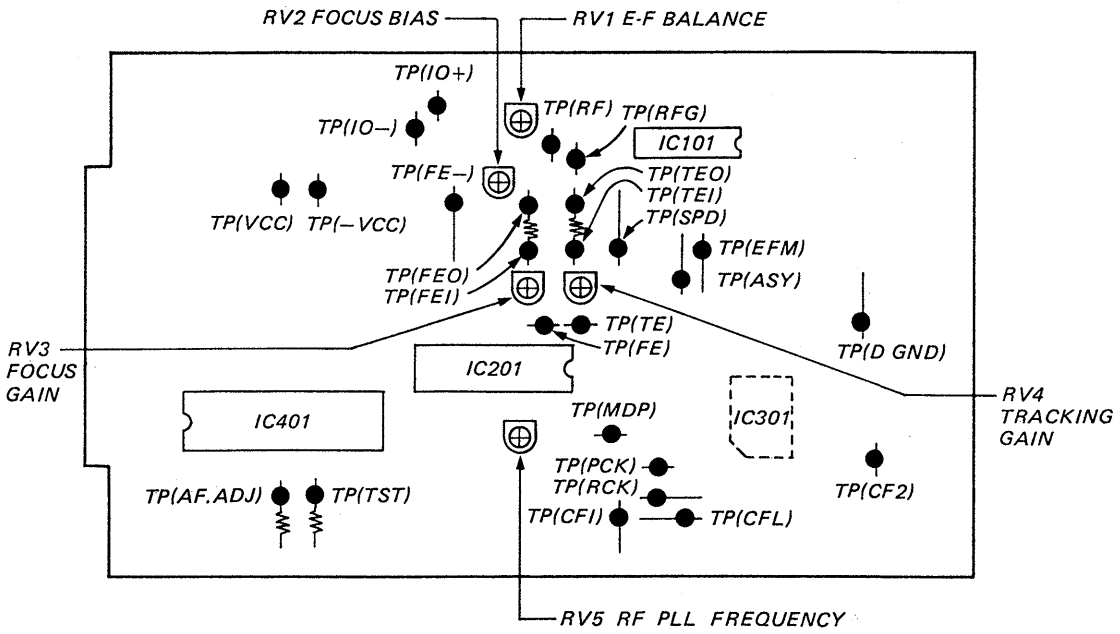
- Incorrect Examples (fundamental wave appears)

low tracking gain



high tracking gain
(higher fundamental wave than for low gain)

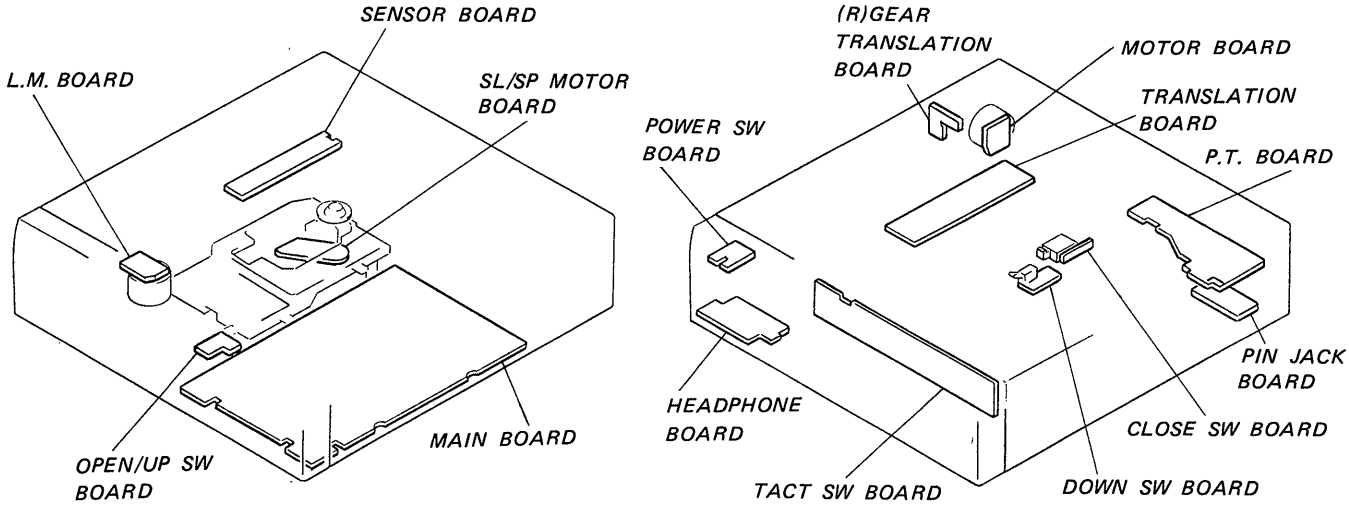
Adjustment Location: main board



COMPONENT SIDE (FRONT)

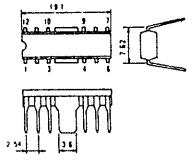
SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARD LOCATION

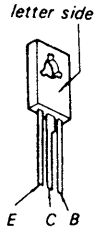


4-2. SEMICONDUCTOR LEAD LAYOUTS

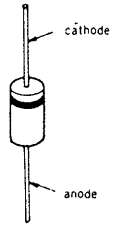
CXA1291P



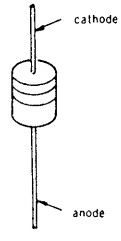
2SB548



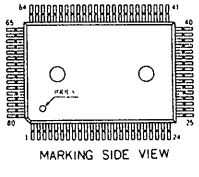
10E2N
RD33E-L2



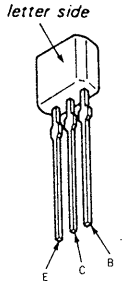
RD6.8ES-B3
RD9.1ES-L
US1060M-TP



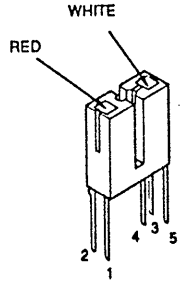
CXD1125Q



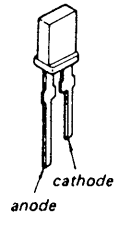
BA1A4M
BA1F4M
BA1L4M
BN1F4M



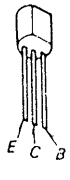
GP1A521



GL-9PG12



2SB1013



CDP-C500M CDP-C500M

4-3. PRINTED WIRING BOARD

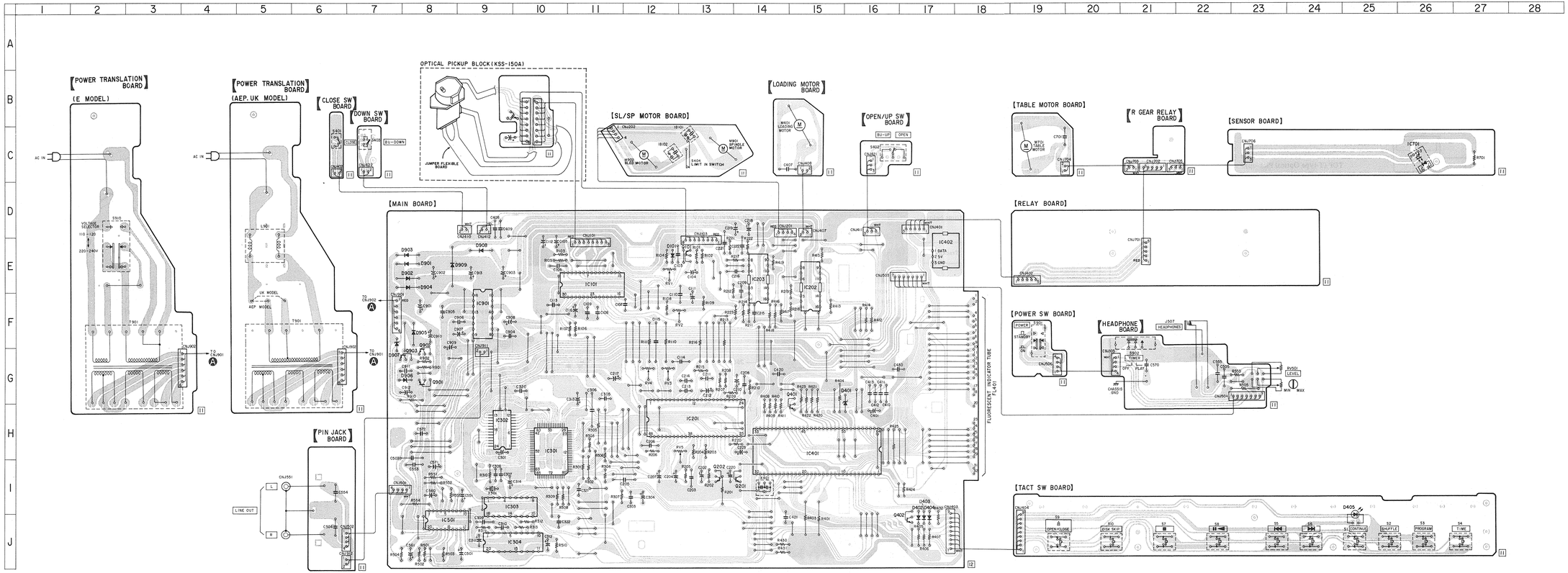
• See page 8 for Semiconductor lead layouts.

• Semiconductors Location

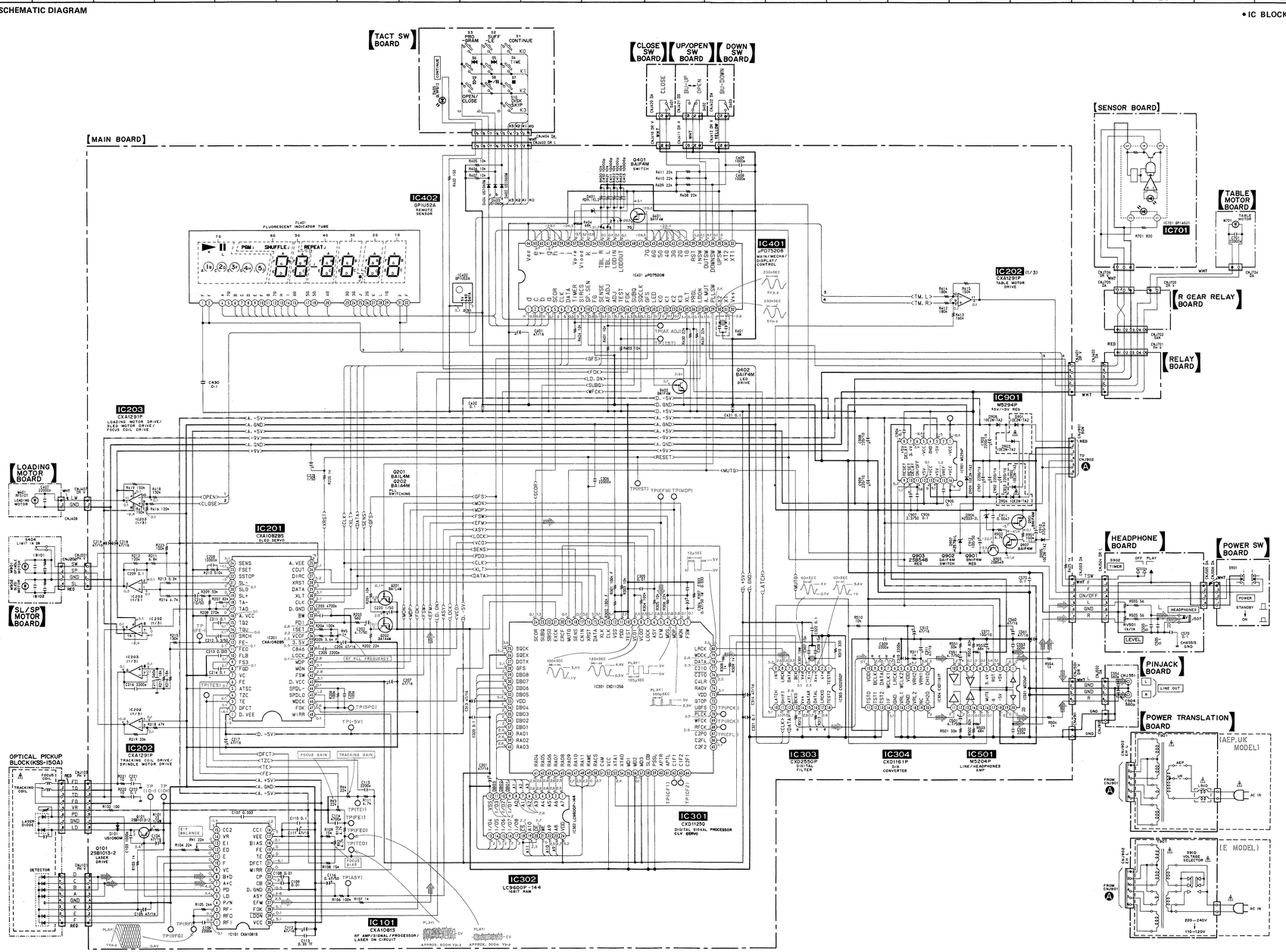
Ref. No.	Location
D101	E-12
D401	H-15
D402	J-17
D403	J-17
D404	J-17
D405	J-17
D901	E-8
D902	E-8
D903	E-8
D904	E-8
D905	F-8
D906	G-8
D907	F-7
D908	E-9
D909	E-8
IC101	E-11
IC201	H-13
IC202	E-15
IC203	E-14
IC301	H-10
IC302	H-9
IC303	I-9
IC304	J-9
IC401	H-15
IC402	E-17
IC501	J-8
IC701	C-26
IC901	G-9
Q101	E-13
Q201	I-13
Q202	I-13
Q401	H-15
Q402	J-17
Q901	G-8
Q902	G-8
Q903	G-8

Note on Printed Wiring Boards:

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ⊡ : indicates side identified with part number.
- ○—+—○ : Jumper wire connected to the ground pattern on the component side.



4-4. SCHEMATIC DIAGRAM



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note on Schematic Diagram:

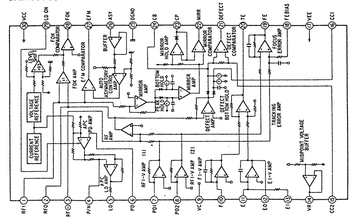
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- Components for right channel have same values as for left channel. Reference numbers are coded from
- △ : internal component.
- ▭▭ : B+ Line
- ▭▭ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions. no mark : STOP mode
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path. ⇨ : CD

- Switch

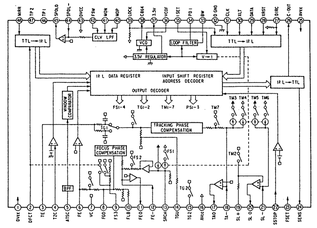
Ref. No.	Switch	Position
S901	POWER	OFF
S902	TIMER	OFF
S401	CLOSE	OFF
S402	UP/OPEN	OPEN
S403	DOWN	OFF
S1 to S10	KEY MATRIX	OFF
S404	LIMIT IN	OFF

- IC BLOCK DIAGRAMS.

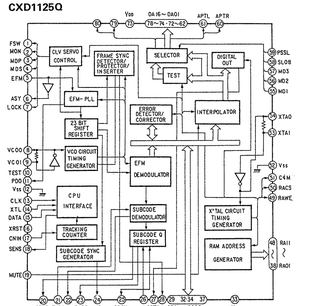
IC101
CXA1081S



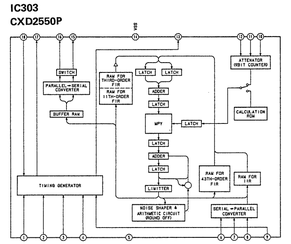
IC201
CXA1082BS



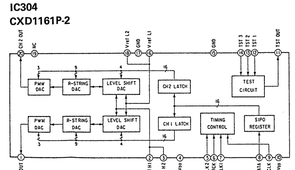
IC301
CXD1125Q



IC303
CXD2550P



IC304
CXD1161P-2



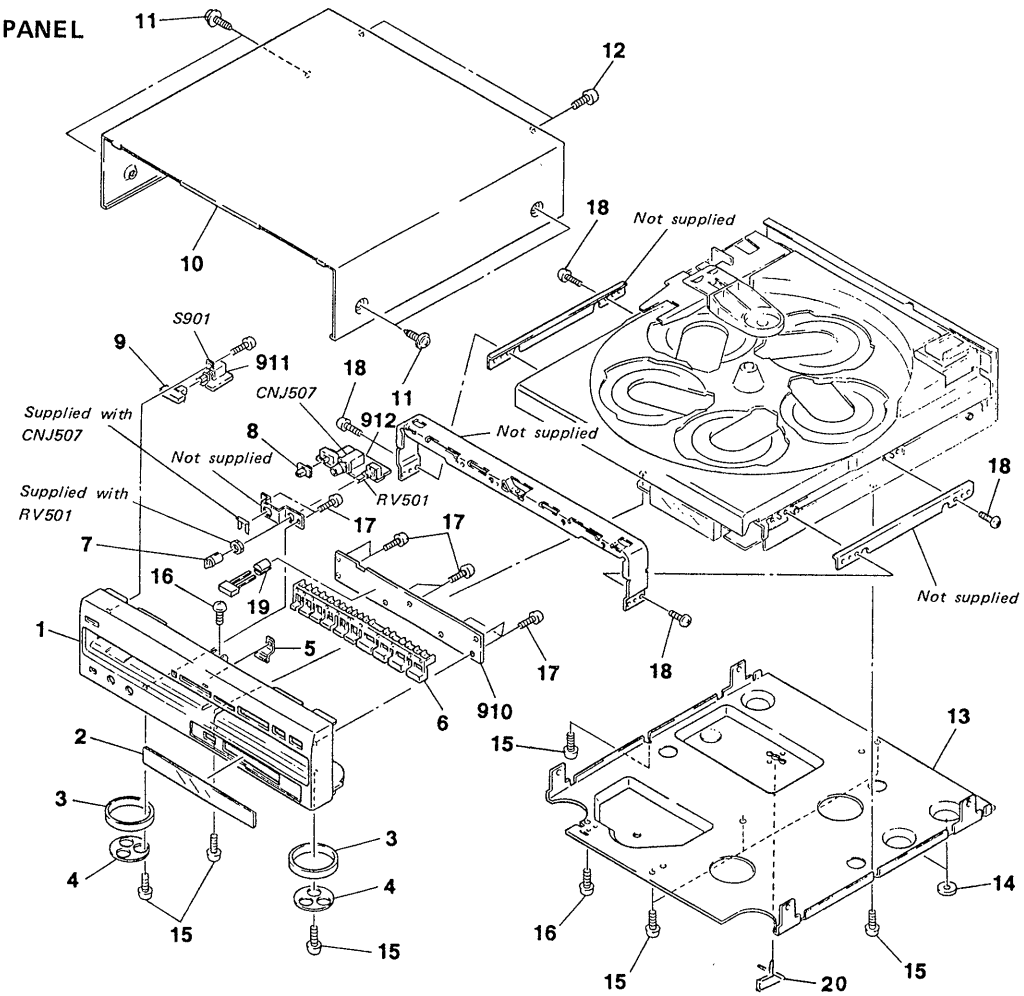
SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) ... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

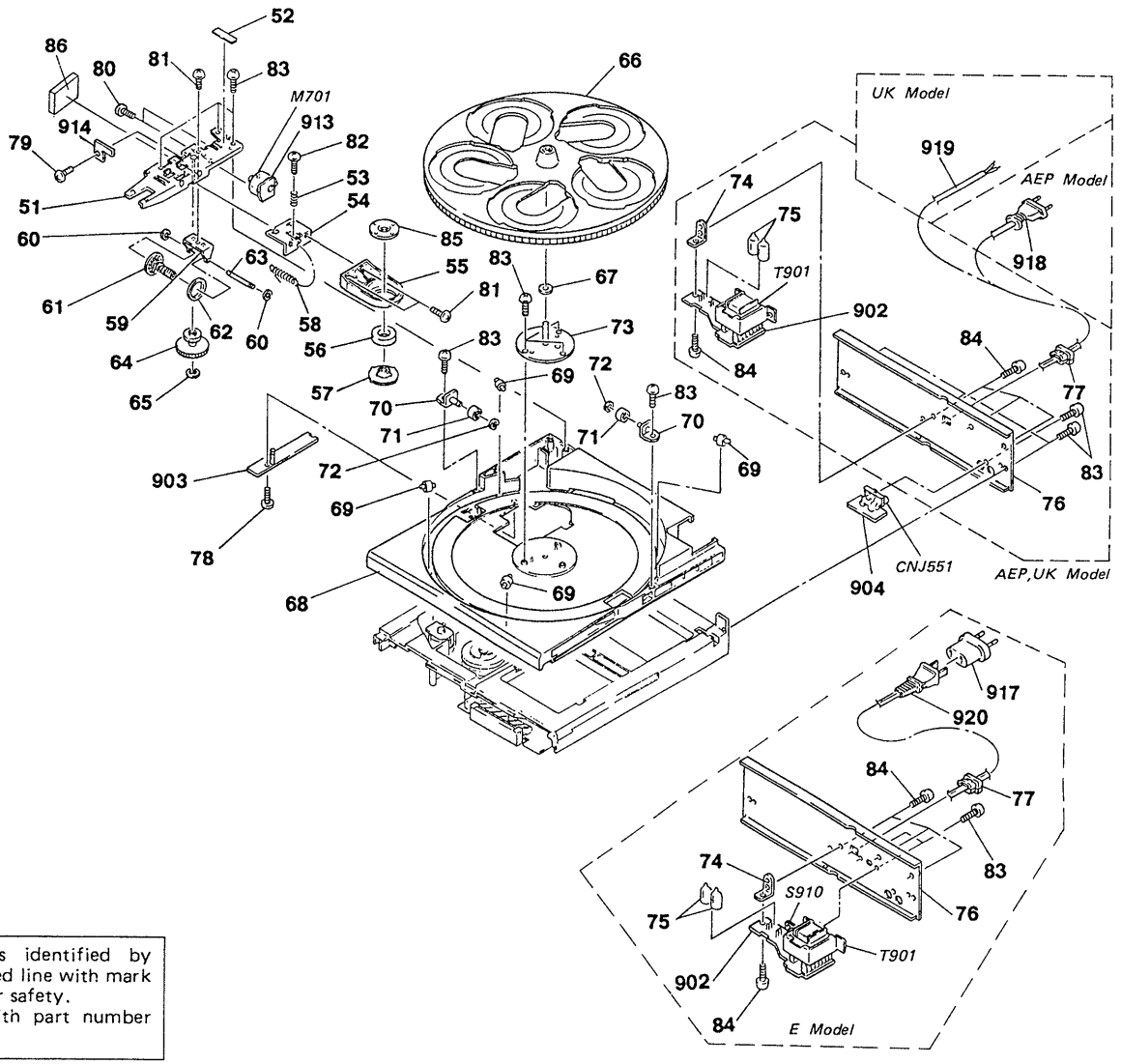
1. FRONT PANEL



No.	Part No.	Description	Remarks
1	4-930-530-11	(BLACK:AEP,UK)....PANEL, FRONT	
	4-930-530-21	(GRAY:AEP,UK,E)...PANEL, FRONT	
2	4-930-526-01	PLATE, INDICATION	
3	4-921-918-01	(BLACK:AEP,UK)...PLATE, ORNAMENTAL	
4	4-921-906-01	FELT	
5	4-930-525-01	PLATE (MODE), INDICATION	
6	4-930-529-01	(BLACK:AEP,UK)....BUTTON	
	4-930-529-11	(GRAY:AEP,UK,E)...BUTTON	
7	4-922-531-01	(BLACK:AEP,UK)....KNOB (A TYPE), LOV	
	4-922-531-21	(GRAY:AEP,UK,E)...KNOB (A TYPE), LOV	
8	4-922-518-01	(BLACK:AEP,UK)....KNOB (TIMER)	
	4-922-518-21	(GRAY:AEP,UK,E)...KNOB (TIMER)	
9	4-922-660-01	(BLACK:AEP,UK)....BUTTON (POWER)	
	4-922-660-11	(GRAY:AEP,UK,E)...BUTTON (POWER)	

No.	Part No.	Description	Remarks
10	4-930-534-01	(BLACK:AEP,UK)....CASE	
	4-930-534-11	(GRAY:AEP,UK,E)...CASE	
11	3-704-366-21	SCREW (CASE) (M3X10)	
12	3-703-685-21	SCREW (+BV 3X8)	
13	*4-924-438-01	PLATE (M), BOTTOM	
14	4-924-410-01	FELT	
15	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
16	7-682-547-04	SCREW +BVTT 3X6 (S)	
17	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
18	7-685-648-79	SCREW +BTP 3X12 TYPE2 N-S	
19	*4-923-532-11	SPACER, LED	
20	4-930-510-01	PLATE, LOCK (TRANSIT KEY)	
910	*1-631-014-11	PC BOARD, TACT SW	
911	*1-631-015-11	PC BOARD, POWER SW	
912	*1-631-016-11	PC BOARD, HEADPHONE	
CNJ507	1-568-518-21	JACK, LARGE TYPE (HEADPHONES)	
RV501	1-238-302-11	RES, VAR, CARBON 1K/1K (HEADPHONES LEVEL)	
S901	1-552-928-00	SWITCH (POWER)	

2. DISK TABLE

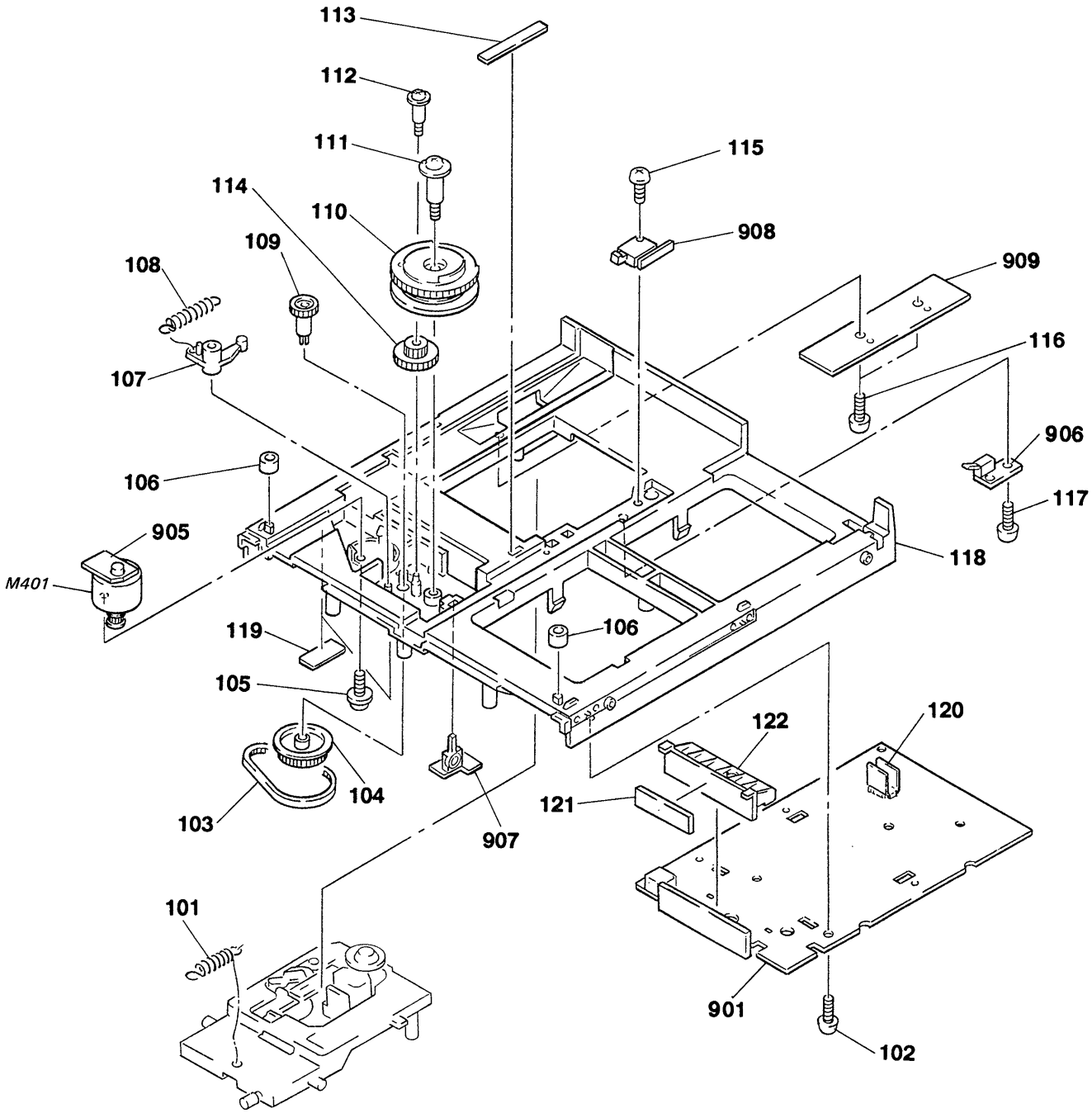


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks
51	*X-4924-423-1	BRACKET (R GEAR) ASSY	
52	*3-846-067-11	SPACER	
53	4-924-477-01	SPRING, COMPRESSION	
54	*4-926-328-01	BRACKET (ADJUSTMENT A)	
55	*4-926-326-01	BRACKET (PRESS PULLEY)	
56	1-452-340-21	MAGNET	
57	4-921-022-01	PULLEY, CHUCKING	
58	4-924-421-01	SPRING (C), TENSION	
59	*4-924-424-01	BRACKET (WORM)	
60	3-669-465-00	WASHER (1.5), STOPPER	
61	4-924-419-01	PULLEY (WORM)	
62	4-917-548-02	BELT, DRIVING	
63	4-924-420-01	SHAFT (W)	
64	4-924-414-01	GEAR (WH)	
65	7-624-106-04	STOP RING 3.0, TYPE -E	
66	4-930-531-01	TABLE (C), DISK	
67	⚠.4-926-307-01	WASHER	
68	4-924-406-31	(BLACK:AEP,UK)....TABLE (A), DISK	
	4-924-406-41	(GRAY:AEP,UK,E)...TABLE (A), DISK	
69	*X-4924-409-1	SHAFT (ROLLER B) ASSY	
70	*X-4924-410-1	BRACKET (ROLLER) ASSY	
71	*X-4924-408-3	COLLAR (ROLLER) ASSY	
72	3-325-290-21	WASHER, STOPPER	
73	*X-4924-402-1	BRACKET (A) ASSY	
74	*4-923-506-01	BRACKET (PC BOARD)	
75	*4-912-962-01	COVER (1P), TERMINAL	
76	*4-924-402-51	(UK)....PANEL (M), BACK	
	*4-924-402-61	(E).....PANEL (M), BACK	
	*4-924-402-71	(AEP)...PANEL (M), BACK	

No.	Part No.	Description	Remarks
77	⚠.*3-703-244-00	(AEP,UK)...BUSHING (2104), CORD	
	⚠.3-703-571-11	(E).....BUSHING (S)(4516), CORD	
78	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
79	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
80	7-621-775-08	SCREW +P 2.6X3	
81	7-685-870-01	SCREW +BVTT 3X5 (S)	
82	7-682-548-09	SCREW +B 3X8	
83	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
84	7-682-547-04	SCREW +BVTT 3X6 (S)	
85	4-921-029-01	YOKE, CHUCKING	
86	9-911-841-XX	CUSHION	
902	⚠.*1-631-004-11	(AEP,UK)...PC BOARD, P.T.	
	⚠.*1-631-005-11	(E).....PC BOARD, P.T.	
903	*1-631-007-11	PC BOARD, SENSOR	
904	*1-631-008-11	PC BOARD, PIN JACK	
913	*1-631-017-11	PC BOARD, MOTOR	
914	*1-631-018-11	PC BOARD, (R) GEAR TRANSLATION	
917	⚠.1-526-565-00	(E)...AC PLUG ADAPTOR	
918	⚠.1-555-795-00	(AEP)...CORD, POWER, EULO PLUG	
919	⚠.1-556-035-00	(UK)....CORD, POWER	
920	⚠.1-551-188-XX	(E).....CORD, POWER	
CNJ551	1-566-921-11	JACK, PIN 2P (LINE OUT L/R)	
M701	A-4608-367-A	MOTOR ASSY, ROTARY	
S910	⚠.1-571-309-11	(E)....SWITCH (VOLTAGE SELECT)	
T901	⚠.1-449-217-11	(AEP,UK)...TRANSFORMER, POWER	
T901	⚠.1-449-218-11	(E).....TRANSFORMER, POWER	

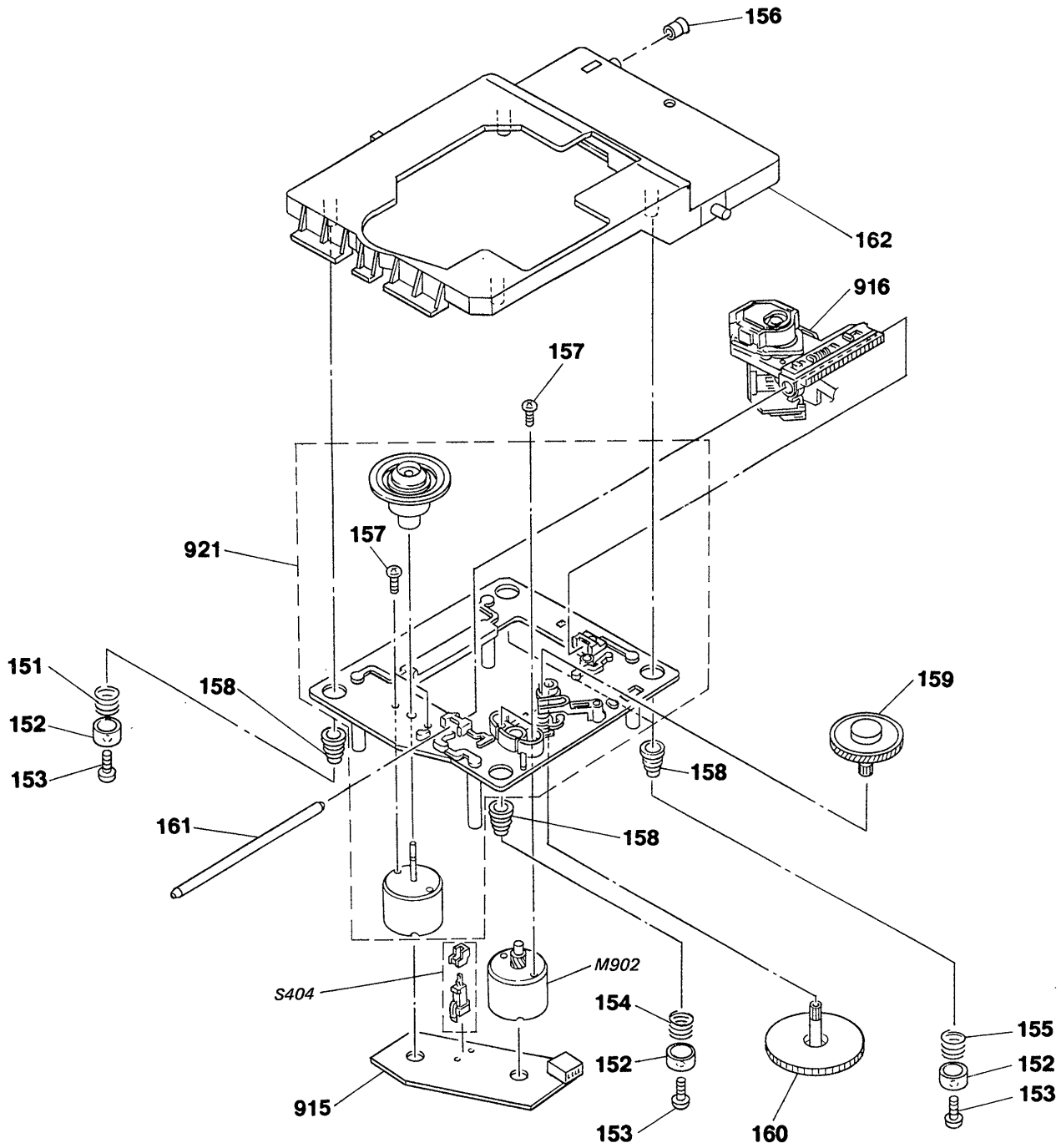
3. CHASSIS



No.	Part No.	Description	Remarks
101	4-924-411-01	SPRING (A), TENSION	
102	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
103	4-930-528-01	BELT (TIMING)	
104	4-930-507-01	PULLEY (LOADING)	
105	7-628-254-10	+PSW, 2.6X6	
106	*3-576-990-01	CUSHION	
107	4-917-519-01	LEVER, SET	
108	4-924-412-01	SPRING (B), TENSION	
109	4-924-425-01	GEAR (LOADING B)	
110	4-924-431-01	GEAR (LOADING A)	
111	4-926-317-01	SCREW, STEP	
112	4-926-320-01	SCREW (B), STEP	
113	*4-926-316-01	SHEET	
114	4-924-426-01	GEAR (LOADING C)	
115	7-685-137-19	SCREW +BTP 2.6X14 TYPE2 N-S	
116	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

No.	Part No.	Description	Remarks
117	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
118	4-924-407-06	FRAME	
119	3-831-441-XX	CUSHION (B), CABINET	
120	*4-926-349-01	HEAT SINK	
121	*4-926-354-01	SHEET (ADHESIVE)	
122	*4-926-324-01	BRACKET (FL)	
901	*A-4617-020-A	(AEP,E)...MOUNTED PCB, MAIN	
	*A-4617-106-A	(UK).....MOUNTED PCB, MAIN	
905	*1-631-009-11	PC BOARD, L.M.	
906	*1-631-010-11	PC BOARD, DOWN SW	
907	*1-631-011-11	PC BOARD, OPEN/UP SW	
908	*1-631-012-11	PC BOARD, CLOSE SW	
909	*1-631-013-11	PC BOARD, TRANSLATION	
M401	A-4608-350-A	MOTOR ASSY, LOADING	

4. BASE UNIT



No.	Part No.	Description	Remarks
151	4-917-541-01	SPRING (B)	
152	4-917-508-01	HOLDER, SP	
153	7-685-135-19	SCREW +P 2.6X10 TYPE2 NON-SLIT	
154	4-918-669-01	SPRING (W)	
155	4-917-507-01	SPRING (H)	
156	4-917-515-01	ROLLER	
157	7-621-255-15	SCREW +P 2X3	
158	4-917-562-01	INSULATOR	

No.	Part No.	Description	Remarks
159	4-917-567-01	GEAR (M)	
160	4-917-564-01	GEAR (P), FLATNESS	
161	4-917-565-01	SHAFT, SLED	
162	4-924-445-01	BRACKET (BU)	
915	*1-626-304-11	PC BOARD, SL/SP MOTOR	
916	8-848-062-01	PICK UP, OPTICAL KSS-150A	
921	X-4917-523-1	BASE ASSY (BU-5C)(SPINDLE MOTOR)	
M902	X-4917-504-1	MOTOR ASSY (SLED)	
S404	1-571-274-11	SWITH, LEAF (LIMIT IN)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description
901	*A-4617-020-A	(AEP,E)...MOUNTED PCB, MAIN
	*A-4617-106-A	(UK).....MOUNTED PCB, MAIN
902 ⚠	*1-631-004-11	(AEP,UK)...PC BOARD, P.T.
⚠	*1-631-005-11	(E).....PC BOARD, P.T.
903	*1-631-007-11	PC BOARD, SENSOR
904	*1-631-008-11	PC BOARD, PIN JACK
905	*1-631-009-11	PC BOARD, L.M.
906	*1-631-010-11	PC BOARD, DOWN SW
907	*1-631-011-11	PC BOARD, OPEN/UP SW
908	*1-631-012-11	PC BOARD, CLOSE SW
909	*1-631-013-11	PC BOARD, TRANSLATION
910	*1-631-014-11	PC BOARD, TACT SW
911	*1-631-015-11	PC BOARD, POWER SW
912	*1-631-016-11	PC BOARD, HEADPHONE
913	*1-631-017-11	PC BOARD, MOTOR
914	*1-631-018-11	PC BOARD, (R) GEAR TRANSLATION
915	*1-627-304-11	PC BOARD, SL/SP MOTOR
916	8-848-062-01	PICK UP, OPTICAL KSS-150A
917 ⚠	1-526-565-00	(E)....AC PLUG ADAPTOR
918 ⚠	1-555-795-00	(AEP)....CORD, POWER, EULO PLUG
919 ⚠	1-556-035-00	(UK)...CORD, POWER
920 ⚠	1-551-188-XX	(E)....CORD, POWER
921	X-4917-523-1	BASE ASSY (BU-5C)(SPINDLE MOTOR)

Ref.No.	Part No.	Description			
C103	1-162-294-31	CERAMIC	0.001MF	10%	50V
C104	1-124-477-11	ELECT	47MF	20%	16V
C105	1-124-477-11	ELECT	47MF	20%	16V
C106	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C107	1-136-159-00	FILM	0.033MF	5%	50V
C108	1-136-153-00	FILM	0.01MF	5%	50V
C109	1-136-153-00	FILM	0.01MF	5%	50V
C110	1-164-159-11	CERAMIC	0.1MF		50V
C111	1-124-477-11	ELECT	47MF	20%	16V
C112	1-124-477-11	ELECT	47MF	20%	16V
C113	1-136-171-00	FILM	0.33MF	5%	50V
C114	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C115	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C116	1-124-902-00	ELECT	0.47MF	20%	50V
C202	1-124-927-11	ELECT	4.7MF	20%	50V
C203	1-161-377-00	CERAMIC	0.0047MF	20%	16V
C204	1-124-477-11	ELECT	47MF	20%	16V
C205	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C206	1-162-282-31	CERAMIC	100PF	10%	50V
C207	1-124-477-11	ELECT	47MF	20%	16V
C208	1-161-379-00	CERAMIC	0.01MF	20%	16V
C209	1-136-165-00	FILM	0.1MF	5%	50V
C210	1-123-875-11	ELECT	10MF	20%	50V
C211	1-136-165-00	FILM	0.1MF	5%	50V
C212	1-123-382-00	ELECT	3.3MF	20%	50V
C213	1-136-159-00	FILM	0.033MF	5%	50V
C214	1-136-165-00	FILM	0.1MF	5%	50V
C215	1-162-291-31	CERAMIC	560PF	10%	50V
C216	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C217	1-124-477-11	ELECT	47MF	20%	16V
C218	1-124-477-11	ELECT	47MF	20%	16V
C219	1-124-477-11	ELECT	47MF	20%	16V
C220	1-124-499-11	ELECT	1MF	20%	50V
C221	1-164-159-11	CERAMIC	0.1MF		50V
C222	1-164-159-11	CERAMIC	0.1MF		50V
C223	1-124-499-11	ELECT	1MF	20%	50V
C301	1-124-477-11	ELECT	47MF	20%	16V
C303	1-136-159-00	FILM	0.033MF	5%	50V
C304	1-124-902-00	ELECT	0.47MF	20%	50V
C305	1-136-153-00	FILM	0.01MF	5%	50V
C306	1-161-494-00	CERAMIC	0.022MF		25V
C307	1-162-203-31	CERAMIC	15PF	5%	50V
C308	1-162-203-31	CERAMIC	15PF	5%	50V
C309	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C310	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C311	1-124-477-11	ELECT	47MF	20%	16V
C312	1-124-477-11	ELECT	47MF	20%	16V
C313	1-124-477-11	ELECT	47MF	20%	16V
C314	1-124-477-11	ELECT	47MF	20%	16V
C320	1-162-851-11	CERAMIC	0.1MF	20%	16V
C321	1-162-851-11	CERAMIC	0.1MF	20%	16V
C322	1-162-851-11	CERAMIC	0.1MF	20%	16V
C401	1-124-477-11	ELECT	47MF	20%	16V
C407	1-161-494-00	CERAMIC	0.022MF		25V
C408	1-162-294-31	CERAMIC	0.001MF	10%	50V
C409	1-162-294-31	CERAMIC	0.001MF	10%	50V
C410	1-161-379-00	CERAMIC	0.01MF	20%	16V
C411	1-161-379-00	CERAMIC	0.01MF	20%	16V
C412	1-161-379-00	CERAMIC	0.01MF	20%	16V
C413	1-161-379-00	CERAMIC	0.01MF	20%	16V
C420	1-162-851-11	CERAMIC	0.1MF	20%	16V
C421	1-162-851-11	CERAMIC	0.1MF	20%	16V
C430	1-162-851-11	CERAMIC	0.1MF	20%	16V
C501	1-124-927-11	ELECT	4.7MF	20%	50V
C503	1-162-286-31	CERAMIC	220PF	10%	50V
C504	1-162-291-31	CERAMIC	560PF	10%	50V
C505	1-164-159-11	CERAMIC	0.1MF		50V

Ref.No.	Part No.	Description			
C551	1-124-927-11	ELECT	4.7MF	20%	50V
C553	1-162-286-31	CERAMIC	220PF	10%	50V
C554	1-162-291-31	CERAMIC	560PF	10%	50V
C555	1-164-159-11	CERAMIC	0.1MF		50V
C560	1-124-477-11	ELECT	47MF	20%	16V
C561	1-124-477-11	ELECT	47MF	20%	16V
C570	1-136-165-00	FILM	0.1MF	5%	50V
C571	1-124-443-00	ELECT	100MF	20%	10V
C572	1-162-851-11	CERAMIC	0.1MF	20%	16V
C701	1-161-494-00	CERAMIC	0.022MF	30%	25V
C901	1-124-556-11	ELECT	2200MF	20%	16V
C902	1-124-556-11	ELECT	2200MF	20%	16V
C903	1-124-556-11	ELECT	2200MF	20%	16V
C904	1-136-165-00	FILM	0.1MF	5%	50V
C905	1-136-165-00	FILM	0.1MF	5%	50V
C906	1-136-165-00	FILM	0.1MF	5%	50V
C907	1-124-925-11	ELECT	2.2MF	20%	50V
C908	1-126-176-11	ELECT	220MF	20%	10V
C909	1-126-176-11	ELECT	220MF	20%	10V
C910	1-124-919-11	ELECT	220MF	20%	63V
C911	1-130-479-00	MYLAR	0.0047MF	5%	50V
C912	1-124-122-11	ELECT	100MF	20%	50V
C913	1-124-556-11	ELECT	2200MF	20%	16V
CNJ101*	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CNJ103*	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CNJ201*	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNJ202*	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNJ401*	1-564-339-00	PIN, CONNECTOR 5P			
CNJ403*	1-506-615-11	PIN, CONNECTOR 9P			
CNJ407*	1-564-336-00	PIN, CONNECTOR 2P			
CNJ410*	1-564-336-00	PIN, CONNECTOR 2P			
CNJ411*	1-564-337-00	PIN, CONNECTOR 3P			
CNJ412*	1-564-336-71	PIN, CONNECTOR 2P			
CNJ501*	1-564-338-00	PIN, CONNECTOR 4P			
CNJ504*	1-564-500-11	PIN, CONNECTOR 7P			
CNJ507	1-568-518-21	JACK, LARGE TYPE (HEADPHONES)			
CNJ551	1-566-921-11	JACK, PIN 2P (LINE OUT L/R)			
CNJ701*	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CNJ703*	1-564-336-00	PIN, CONNECTOR 2P			
CNJ706*	1-564-337-00	PIN, CONNECTOR 3P			
CNJ902*	1-564-521-11	PLUG, CONNECTOR 6P			
CNJ911*	1-564-336-00	PIN, CONNECTOR 2P			
D101	8-719-912-20	DIODE 1SS120			
D401	8-719-121-24	DIODE RD9.1ES-L			
D402	8-719-912-20	DIODE 1SS120			
D403	8-719-912-20	DIODE 1SS120			
D404	8-719-912-20	DIODE 1SS120			
D405	8-719-920-07	DIODE GL-9PG12 (CONTINUE)			
D901	8-719-200-77	DIODE 10E2N			
D902	8-719-200-77	DIODE 10E2N			
D903	8-719-200-77	DIODE 10E2N			
D904	8-719-200-77	DIODE 10E2N			
D905	8-719-200-77	DIODE 10E2N			
D906	8-719-102-30	DIODE RD33ES-L2			
D907	8-719-933-46	DIODE HZS7B1L			
D908	8-719-200-77	DIODE 10E2N			
D909	8-719-200-77	DIODE 10E2N			

Ref.No.	Part No.	Description			
FL401	1-519-477-11	INDICATOR TUBE, FLUORESCENT			
IB101	1-233-171-11	COMPOSITION CIRCUIT BLOCK			
IB102	1-233-171-11	COMPOSITION CIRCUIT BLOCK			
IC101	8-752-034-00	IC CXA1081S			
IC201	8-752-032-30	IC CXA1082BS			
IC202	8-752-035-28	IC CXA-1291P			
IC203	8-752-035-28	IC CXA-1291P			
IC301	8-752-328-62	IC CXD1125Q			
IC302	8-752-323-64	IC CXK5816M-12L			
IC303	8-752-328-72	IC CXD2550P			
IC304	8-759-805-35	IC CXD1161P-2			
IC401	8-759-145-82	IC UPD75208CW-287			
IC402	8-749-920-53	RECEIVER UNIT, REMOCON GP1U52A			
IC501	8-759-631-39	IC M5204P			
IC701	8-719-970-19	DIODE GP1A521			
IC901	8-759-631-40	IC M5294P			
L901	1-421-915-11	(AEP,UK)...COIL, LINE FILTER			
M401	A-4608-350-A	MOTOR ASSY, LOADING			
M701	A-4608-367-A	MOTOR ASSY, ROTARY			
M902	X-4917-504-1	MOTOR ASSY (SLED)			
Q101	8-729-116-57	TRANSISTOR 2SB1013			
Q201	8-729-115-77	TRANSISTOR BA1L4M			
Q202	8-729-900-61	TRANSISTOR DTC114ES			
Q401	8-729-900-36	TRANSISTOR DTC124ES			
Q402	8-729-900-36	TRANSISTOR DTC124ES			
Q901	8-729-900-63	TRANSISTOR DTA124ES			
Q902	8-729-900-61	TRANSISTOR DTC114ES			
Q903	8-729-154-83	TRANSISTOR 2SB548			
R101	1-249-397-11	CARBON	22	5%	1/4W
R102	1-249-405-11	CARBON	100	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-249-433-11	CARBON	22K	5%	1/4W
R105	1-247-864-11	CARBON	24K	5%	1/4W
R106	1-249-441-11	CARBON	100K	5%	1/4W
R107	1-249-417-11	CARBON	1K	5%	1/4W
R108	1-249-431-11	CARBON	15K	5%	1/4W
R109	1-249-431-11	CARBON	15K	5%	1/4W
R110	1-249-425-11	CARBON	4.7K	5%	1/4W
R111	1-249-425-11	CARBON	4.7K	5%	1/4W
R201	1-249-429-11	CARBON	10K	5%	1/4W
R202	1-249-433-11	CARBON	22K	5%	1/4W
R203	1-249-414-11	CARBON	560	5%	1/4W
R204	1-249-441-11	CARBON	100K	5%	1/4W
R205	1-215-434-00	METAL	3.6K	1%	1/6W
R206	1-249-441-11	CARBON	100K	5%	1/4W
R207	1-249-440-11	CARBON	82K	5%	1/4W
R208	1-247-889-00	CARBON	270K	5%	1/4W
R209	1-249-435-11	CARBON	33K	5%	1/4W
R210	1-247-896-11	CARBON	510K	5%	1/4W
R211	1-249-427-11	CARBON	6.8K	5%	1/4W
R212	1-247-881-00	CARBON	120K	5%	1/4W
R213	1-249-423-11	CARBON	3.3K	5%	1/4W
R214	1-249-425-11	CARBON	4.7K	5%	1/4W
R215	1-247-882-11	CARBON	130K	5%	1/4W
R216	1-249-432-11	CARBON	18K	5%	1/4W

Ref.No.	Part No.	Description			
R217	1-249-432-11	CARBON	18K	5%	1/4W
R218	1-249-437-11	CARBON	47K	5%	1/4W
R219	1-249-435-11	CARBON	33K	5%	1/4W
R220	1-249-417-11	CARBON	1K	5%	1/4W
R221	1-249-393-11	CARBON	10	5%	1/4W
R222	1-249-393-11	CARBON	10	5%	1/4W
R223	1-249-441-11	CARBON	100K	5%	1/4W
R301	1-215-469-00	METAL	100K	1%	1/6W
R302	1-215-469-00	METAL	100K	1%	1/6W
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-441-11	CARBON	100K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-433-11	CARBON	22K	5%	1/4W
R307	1-247-903-00	CARBON	1M	5%	1/4W
R308	1-249-417-11	CARBON	1K	5%	1/4W
R309	1-249-417-11	CARBON	1K	5%	1/4W
R310	1-249-411-11	CARBON	330	5%	1/4W
R311	1-249-417-11	CARBON	1K	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W
R313	1-249-417-11	CARBON	1K	5%	1/4W
R401	1-249-429-11	CARBON	10K	5%	1/4W
R403	1-249-429-11	CARBON	10K	5%	1/4W
R404	1-249-439-11	CARBON	68K	5%	1/4W
R405	1-249-429-11	CARBON	10K	5%	1/4W
R406	1-249-429-11	CARBON	10K	5%	1/4W
R407	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-249-433-11	CARBON	22K	5%	1/4W
R409	1-249-433-11	CARBON	22K	5%	1/4W
R410	1-249-433-11	CARBON	22K	5%	1/4W
R411	1-249-433-11	CARBON	22K	5%	1/4W
R412	1-247-885-00	CARBON	180K	5%	1/4W
R413	1-247-884-11	CARBON	160K	5%	1/4W
R414	1-247-885-00	CARBON	180K	5%	1/4W
R415	1-247-883-00	CARBON	150K	5%	1/4W
R416	1-247-881-00	CARBON	120K	5%	1/4W
R417	1-247-883-00	CARBON	150K	5%	1/4W
R418	1-247-882-11	CARBON	130K	5%	1/4W
R419	1-247-883-00	CARBON	150K	5%	1/4W
R420	1-249-429-11	CARBON	10K	5%	1/4W
R421	1-249-429-11	CARBON	10K	5%	1/4W
R422	1-249-429-11	CARBON	10K	5%	1/4W
R423	1-249-429-11	CARBON	10K	5%	1/4W
R424	1-249-429-11	CARBON	10K	5%	1/4W
R425	1-249-417-11	CARBON	1K	5%	1/4W
R430	1-249-433-11	CARBON	22K	5%	1/4W
R431	1-249-433-11	CARBON	22K	5%	1/4W
R432	1-249-407-11	CARBON	150	5%	1/4W
R501	1-249-435-11	CARBON	33K	5%	1/4W
R502	1-249-440-11	CARBON	82K	5%	1/4W
R503	1-249-439-11	CARBON	68K	5%	1/4W
R504	1-249-417-11	CARBON	1K	5%	1/4W
R505	1-249-402-11	CARBON	56	5%	1/4W
R510	1-249-429-11	CARBON	10K	5%	1/4W
R551	1-249-435-11	CARBON	33K	5%	1/4W
R552	1-249-440-11	CARBON	82K	5%	1/4W
R553	1-249-439-11	CARBON	68K	5%	1/4W
R554	1-249-417-11	CARBON	1K	5%	1/4W

Ref.No.	Part No.	Description			
R555	1-249-402-11	CARBON	56	5%	1/4W
R701	1-249-416-11	CARBON	820	5%	1/4W
R901	1-247-883-00	CARBON	150K	5%	1/4W
R902	1-249-425-11	CARBON	4.7K	5%	1/4W
RV1	1-228-995-00	RES, ADJ, CARBON 22K			
RV2	1-228-993-00	RES, ADJ, CARBON 4.7K			
RV3	1-228-995-00	RES, ADJ, CARBON 22K			
RV4	1-228-995-00	RES, ADJ, CARBON 22K			
RV5	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV501	1-238-302-11	RES, VAR, CARBON 1K/1K (HEADPHONES LEVEL)			
S1	1-554-596-21	SWITCH, KEY BOARD (CONTINUE)			
S2	1-554-596-21	SWITCH, KEY BOARD (SUFFLE)			
S3	1-554-596-21	SWITCH, KEY BOARD (PROGRAM)			
S4	1-554-596-21	SWITCH, KEY BOARD (TIME)			
S5	1-554-596-21	SWITCH, KEY BOARD (▶▶|)			
S6	1-554-596-21	SWITCH, KEY BOARD (|◀◀)			
S7	1-554-596-21	SWITCH, KEY BOARD (■)			
S8	1-554-596-21	SWITCH, KEY BOARD (▶/❚❚)			
S9	1-554-596-21	SWITCH, KEY BOARD (⏏ OPEN/CLOSE)			
S10	1-554-596-21	SWITCH, KEY BOARD (DISK SKIP)			
S401	1-571-677-11	SWITCH, PUSH (1 KEY)(CLOSE)			
S402	1-571-300-11	SWITCH, ROTARY (BU-UP/OPEN)			
S403	1-571-453-11	SWITCH, LEVER SLIDE (BU-DOWN)			
S404	1-571-274-11	SWITH, LEAF (LIMIT IN)			
S901	1-552-928-00	SWITCH (POWER)			
S902	1-570-707-21	SWITCH, SLIDE (TIMER)			
⚠S910	1-571-309-11	(E).....SWITCH (VOLTAGE SELECT)			
⚠T901	1-449-217-11	(AEP,UK)...TRANSFORMER, POWER			
⚠T901	1-449-218-11	(E).....TRANSFORMER, POWER			
X301	1-567-741-11	VIBRATOR, CRYSTAL 16MHz			
X401	1-567-686-11	OSCILLATOR, CERAMIC 4MHz			

ACCESSORY & PACKING MATERIAL

1-465-186-11	REMOTE COMMANDER (RM-D505)
1-559-533-11	CORD, CONNECTION
3-701-630-00	BAG, POLYETHYLENE
3-750-381-11	MANUAL, INSTRUCTION
3-750-381-41	(AEP)...MANUAL, INSTRUCTION
*3-795-629-11	(AEP)...INSTRUCTION
4-384-285-01	COVER, BATTERY
*4-885-838-00	LABEL, CLASS 1
*4-924-418-01	PLATE (TRANSPORT), LOCK
*4-930-516-01	CUSHION (LEFT)
*4-930-517-01	CUSHION (RIGHT)
*4-930-570-01	INDIVIDUAL CARTON

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

CDP-C500M

SONY®

SERVICE MANUAL

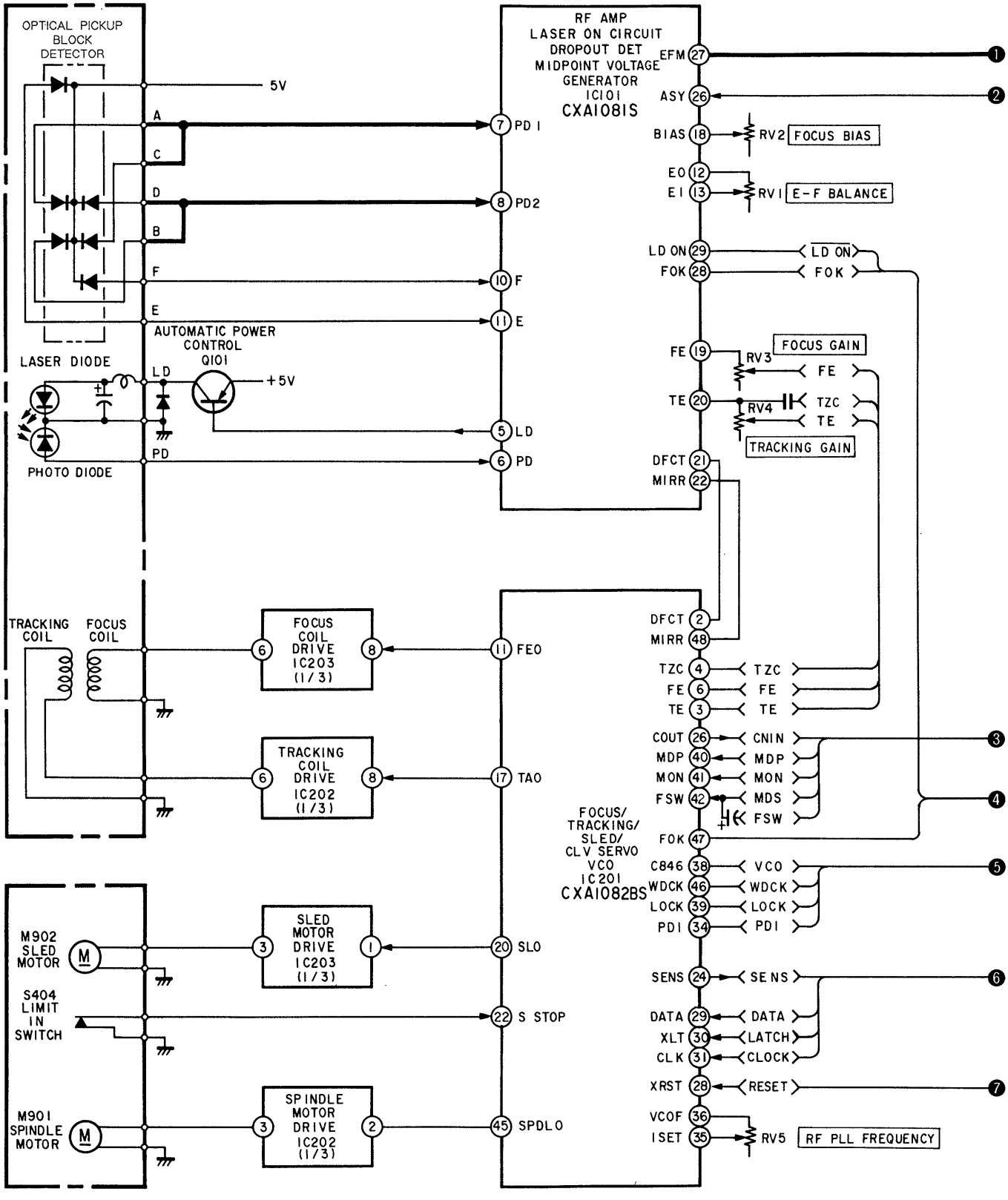
AEP Model
UK Model
E Model

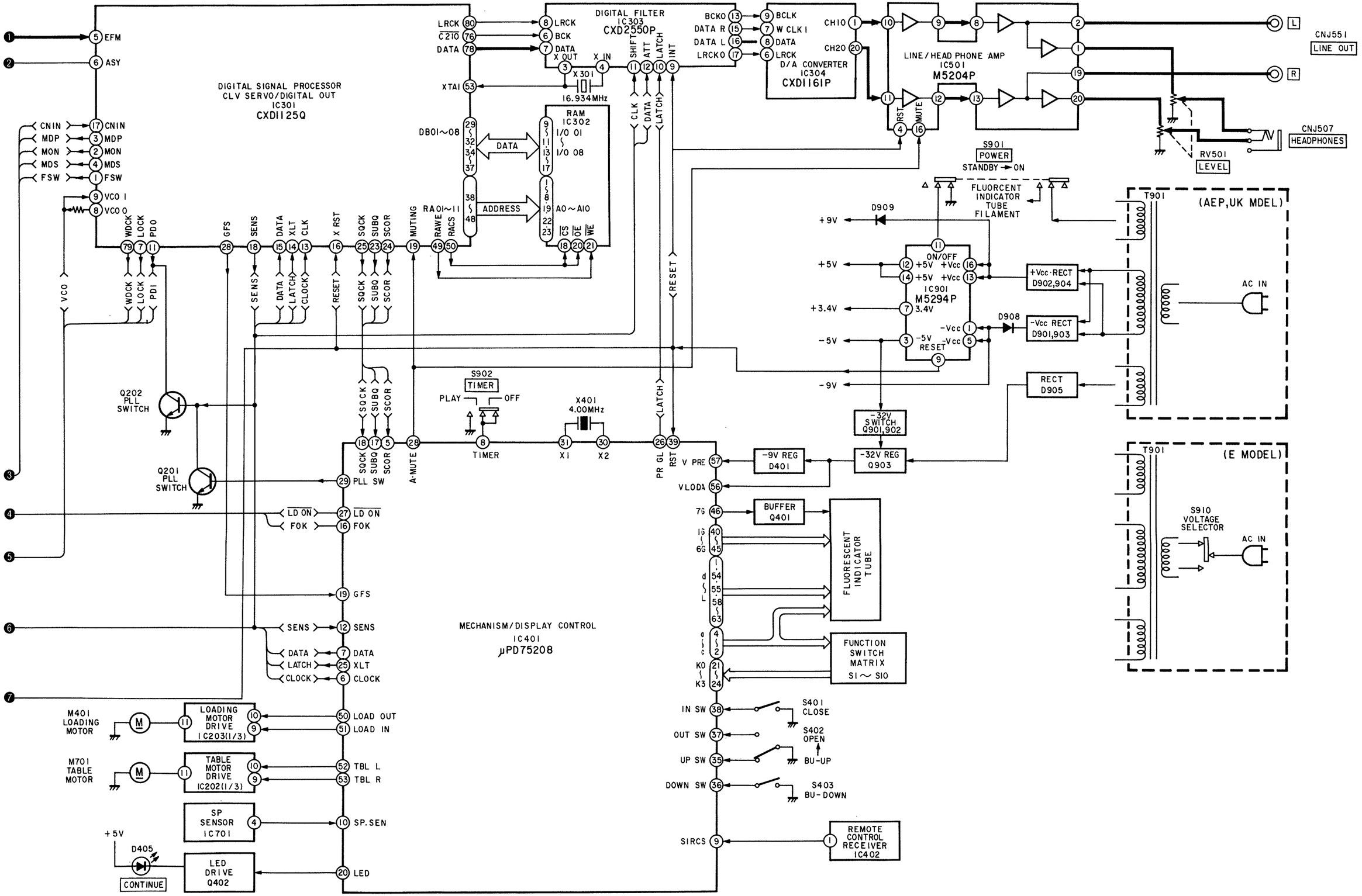
SUPPLEMENT-1

File this supplement with the service manual.

Subject: Block Diagram

1. BLOCK DIAGRAM




DIGITAL SIGNAL PROCESSOR
CLV SERVO/DIGITAL OUT
IC301
CXD1125Q
DIGITAL FILTER
IC303
CXD2550P
X301
16.934MHz
RAM
IC302
I/O 01 ~ I/O 08
DATA
ADDRESS
A0 ~ A10
D/A CONVERTER
IC304
CXD1161P
LINE/HEAD PHONE AMP
IC501
M5204P
CNJ551
LINE OUT
CNJ507
HEADPHONES
RV501
LEVEL
S901
POWER
STANDBY → ON
FLUORCENT
INDICATOR
TUBE
FILAMENT
D909
IC901
M5294P
ON/OFF
+Vcc RECT
D902,904
-Vcc RECT
D901,903
D908
RECT
D905
-32V
SWITCH
Q901,902
T901
(AEP,UK MDEL)
AC IN
T901
(E MODEL)
S910
VOLTAGE
SELECTOR
AC IN
Q202
PLL
SWITCH
Q201
PLL
SWITCH
S902
TIMER
PLAY
OFF
X401
4.00MHz
MECHANISM/DISPLAY CONTROL
IC401
μPD75208
-9V REG
D401
-32V REG
Q903
BUFFER
Q401
FLUORESCENT
INDICATOR
TUBE
FUNCTION
SWITCH
MATRIX
S1 ~ S10
S401
CLOSE
S402
OPEN
BU-UP
S403
BU-DOWN
M401
LOADING
MOTOR
LOADING
MOTOR
DRIVE
IC203(1/3)
M701
TABLE
MOTOR
TABLE
MOTOR
DRIVE
IC202(1/3)
SP
SENSOR
IC701
+5V
D405
CONTINUE
LED
DRIVE
Q402
REMOTE
CONTROL
RECEIVER
IC402

9-953-740-12
(With 9-953-740-81
Including 9-953-740-91
9-953-740-93)

Sony Corporation
Audio Group

English
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